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Presentation of criteria for evaluating admission practices. Discusses recent surveys of admission practices, prediction studies, and admissions officers' role in selecting students. Interpretation of consistently substantial correlations between college achievements and certain predictors led to suggestion that admissions officers depend more heavily on selection variables with known validity.

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Prediction, Selection, Mortality, and Quality Control

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WHAT implications for higher education can be drawn from the relationships between college achievement and predictors of college achievement? For over fifty years college achievement has been predicted from high school achievement and the correlation coefficients have consistently averaged about .55. For over 35 years college achievement has been predicted from standardized tests of academic ability and the coefficients have consistently averaged about .45. When college achievement is predicted from a combination of high school achievement and ability test scores the multiple correlation coefficients have consistently averaged about .64.

The stability over the years in the predictive indices has disheartened admissions officers and others who are interested in predicting accurately the performance of entering freshmen. It is not uncommon to hear and to read statements pointing out the need for techniques to measure academic motivation or personality drive. While some progress has been made in this area much remains to be done (9, 10, 11, 12, 15). Recently some admissions officers, dissatisfied with the standard, generally objective data, have turned to what might be called global assessment techniques wherein they attempt to take into account the subtle factors which condition student success. Some admissions offices have admissions counselors to evaluate applicants through a personal interview.

Unless college facilities and staff increase along with college applicants there will be continued need for accurate methods of appraising the college readiness of applicants (27, 30).

Although the primary purpose of this paper is to present some criteria for evaluating admissions practices, some attention will be given to all the problems succinctly summarized by Ersoh (6). He said "a matter of increasing concern to educators, especially within the past few years, has been the employment of poor college entrance practices which have resulted in (a) colleges not admitting students wisely, (b) students not selecting their colleges intelligently, (c) high schools not advising and guiding their students properly, (d)

many high school graduates failing to be admitted to college even though they would be successful, and (e) severe restrictions being imposed on the high school curriculum."

RECENT SURVEYS AND DISCUSSIONS OF ADMISSIONS PRACTICES

While empirical evidence, not opinions, should be used to evaluate methods of selecting students, the results of opinion surveys should not be ignored; valid selection procedures may be too costly or impracticable.

Probably the most recent and thorough study of admissions practices is that by Knutson (17). He sent questionnaires to 71 state universities and land-grant colleges and found that 80 per cent of them had a partially prescribed subject pattern requirement for entrance. Rank in class was used as an admissions criterion in one form or another by 61 per cent, and in 18 per cent attainment of a certain rank in class was a basic or primary requirement for admission. Recommendation of the high school principal was used in a limited way by 50 per cent, but in an additional 3 per cent the recommendation was accepted as the single criterion for admission. A personal interview was used by 14 per cent but none admitted students on the basis of the interview alone.

After this documentary study Knutson isolated 12 distinct selection criteria and surveyed the 71 institutions as to their desirability and administrative feasibility. Reactions were obtained from the college deans of agriculture, arts and sciences, education, and engineering, as well as from the college admissions officer. Administrators of 87 public high schools in the state of Wyoming were also surveyed.

Table 1 summarizes Knutson's findings. Since the college deans agreed almost completely with each other as to the importance of the various criteria only their combined ratings are given in Table 1.

It is obvious from Table 1 that a high school graduation certificate is regarded most highly. Many institutions which are reportedly "nonselective" use this as a criterion for admission; the value of the certificate in identifying potentially capable college students is negligible however. A recent study (18) has reaffirmed the well-established finding that pattern of high school subjects *per se* has no predictive value (i.e., when high school rank and academic ability are taken into account subject pattern does not indicate success or failure in college), but it is still regarded quite highly.

TABLE 1

RANKED OPINIONS CONCERNING SELECTION CRITERIA
(from Knutson (17))

Criterion	Desirability Ranks		Administrative Feasibility Ranks	
	Wyoming H.S. Admin.	College Deans	Wyoming H.S. Admin.	Admissions Officers
1. Certificate of graduation from an accredited H.S.	1	1	1	1
2. A pattern of H.S.-college preparatory subjects	4	7	3	4
3. Rank in class	11	2.5	2	2
4. Scholastic aptitude test	2	2.5	5	5
5. Achievement tests in H.S. subjects or areas	6	5	4	8
6. Recommendation by principal and/or faculty	3	4	7	6
7. Personal interview	10	8	9	10
8. GED tests or H.S. equivalency diploma	12	12	6	3
9. H. Douglass plan	7	10	10	12
10. Illinois plan	5	6	8	9
11. Michigan plan	9	9	11	7
12. Eight-year-study plan	8	11	12	11

There seems to be little doubt in the minds of the respondents concerning the usefulness of the personal interview, the Douglass plan (emphasis on a comprehensive global assessment), the Michigan plan (emphasis on principals' recommendation, unrestricted pattern of high school subjects, and adequate student personnel data), and the eight-year-study plan (emphasis on an integrated global assessment). The best of the 'plans,' the Illinois plan (emphasis on a battery of standardized tests), was regarded more desirable than practicable.

Scholastic aptitude tests and rank in class appear to be the most highly regarded selection criteria, the only inconsistency being the low rating assigned by the Wyoming high school administrators to the desirability of rank in class. It is not inconceivable that this low rating could be due to a computational error or some local situation since other studies indicate that principals desire to have colleges take into account the quality of high school performance. It is of special interest to see that the three administrative groups consistently rated the scholastic aptitude test more highly than the recommendation of the principal and/or faculty.

The findings of Ersoff (6) are similar to those of Knutson. He surveyed 498 high school principals throughout the country and found high agreement between the principals from the six geographic regions. Of 25 bases for determining admission, college preparatory subjects and rank in class were reported most frequently. These along with principal's recommendation, maturity of student, intelligence tests,[1] the eight-year-study plan, and the comprehensive report were judged the most desirable bases for admitting students. It is to be noted that this large national sample of principals' high rating of rank in class as a selection variable is in contrast with that given by the Wyoming high school administrators.

The "most easily administered" bases were thought to be college preparatory subjects, graduation from an accredited school, intelligence tests, and recommendation of principal. Practices judged "most difficult or impossible to administer" were the Michigan plan, the comprehensive report, and the eight-year-study plan.

A high school principal, Mary Carter (4), in her address to the Middle States Association of Collegiate Registrars and Officers of Admission, gave a clear description of the undesirable effects upon the high schools of the colleges' requirement of a certain subject pattern for admission. She felt high schools could do a better job for all students if they were "permitted to develop new curriculum patterns that are not hampered by the present college admissions requirements." Other interesting and helpful discussions have appeared recently (2, 8, 22, 25, 28, 29).

RECENT PREDICTION STUDIES

Probably the most popular criterion by which the value of grade-predictors have been judged is the zero-order correlation coefficient

[1] Ersoff made the common error of separating intelligence tests and scholastic aptitude tests and many respondents probably were confused. For all practical purposes distinctions should not be made between intelligence tests, scholastic aptitude tests, and academic ability tests which are given to students to predict academic achievement (e.g., popular scholastic aptitude tests such as the ACE and SAT are as much, or as little, intelligence tests as the *California Tests of Mental Maturity,* the *Kuhlman-Anderson Intelligence Tests,* and the *Otis Quick-Scoring Mental Ability Tests;* while the scores derived from these latter tests are labelled IQ's rather than percentile ranks or standard scores their interpretation is similar). The *items* in all tests used to appraise academic potential or educational intelligence are essentially the same. The test titles are of minor importance and should not mislead test users or those who survey test users.

(r). Most studies have shown that the best single predictor of college grade-point average (GPA) is high school percentile rank (HSPR); the average r is about .55. The next best predictor is usually average high school grade (AHSG). That high school performance is the best predictor of college performance should not be surprising since the best indication of future performance is past performance in a similar activity.

Standardized achievement tests and general academic ability tests follow in this order. Recent studies have shown that the principals' recommendation correlates less than .30 with GPA (e.g., 7, 23). Useful r's between freshman GPA and other predictors (e.g., physical health and social adjustment) have rarely been found.

The correlational results from a recent but limited review of prediction studies by Cosand (3) are somewhat typical and are summarized in Table 2.

TABLE 2

CORRELATIONS BETWEEN PREDICTORS AND COLLEGE ACHIEVEMENT
(from Cosand (3))

Predictor	Number of r's	Correlation with College GPA (Median r)
H.S. Percentile Rank	5	.58
Average H.S. Grade	18	.54
Gen. Achievement Tests	7	.54
Mental Ability Tests	11	.45
ACE—Total	16	.43
SAT—Verbal	10	.43
SAT—Math	10	.34

The median of 27 multiple correlation coefficients Cosand reported was .63. The median of 18 r's between high school subject and college subject was .48.

Some interpretive comments concerning Cosand's correlation coefficients and the coefficients generally reported are in order. Since many institutions select students on the basis of the predictors in Table 2 the predictive coefficients computed on these populations underestimate their predictive significance (i.e., the correlation coefficients are smaller in those institutions which rigorously select students than in those institutions which more or less accept students). The widespread practice of selecting students on the basis of HSPR and/or SAT has probably suppressed their correlation coefficients

much more than the other predictors. Since all the commonly used grade predictors correlate substantially with each other the predictive value of each one is reduced by selecting students on the basis of *any one* of them. However, the predictor which suffers the greatest loss in predictive efficiency is the one used in selecting students.

The recent study by Bertrand (1) is a good example of the predictive value of college grade-predictors in a relatively unselected population since the only requirement for admission to the Agricultural and Mechanical College of Texas is graduation from an accredited high school with 15 acceptable units. While Bertrand did not give correlation coefficients it is obvious from the data he presented that the relationships between ACE and GPA, and AHSG and GPA were quite marked. For example, the mean two-year GPA of those students in the highest quarter of the ACE distribution *and* in the highest AHSG category (i.e., AHSG's of 90 and above) was 1.97. Of those in the lowest ACE quarter *and* in the lowest AHSG category (i.e., AHSG's below 75) the mean two-year GPA was −.14. The mean two-year GPA of the students in the lowest ACE quarter *and* in the highest AHSG category was only .44. In other words students with inadequate tested academic ability did not succeed in college even though their high school grades were very good; this is due, at least in part, to some high schools overgrading their students and is probably the major reason why HSPR generally gives a better picture of a student's high school achievement. Of those in the highest ACE quarter *and* in the lowest AHSG category the mean two-year GPA was 1.21; this relatively high GPA achieved by low AHSG students is due, at least in part, to some high schools undergrading their students.

That the ACE and AHSG have value in predicting student mortality is also apparent. Of the 129 students having ACE percentile ranks below 26 *and* AHSG's below 80, only 27 per cent completed two years. Of the 37 students having ACE percentile ranks above 74 *and* AHSG's above 84, 73 per cent completed two years. Of the 637 students who entered, 57 per cent completed two years.

Of the 637 students, 191, or 30 per cent, were placed on scholastic probation at the end of the first semester. Of the 191 students on probation 75 per cent had ACE percentile ranks below 26, and 58 per cent had AHSG's below 80.

Of the 637 students, 89, or 14 per cent were dropped for low

scholarship during their first two years. Of the 89 students who were dropped 73 per cent had ACE percentile ranks below 26, and 66 per cent had AHSG's below 80.

It is unfortunate that Bertrand did not present the validity of the predictors for predicting *first semester* GPA. This is the crucial period to be predicted by the standard grade predictors. After first semester (or quarter) GPA's are available these are the best predictors of second semester and subsequent semester GPA's. Records of high school achievement and scores from ability tests, etc., should *not* be used to predict more than the first college experience. One of the reasons why correlation coefficients between college achievement and predictors of college achievement are not higher is because researchers have correlated one-, two-, three-, or four-year GPA with the predictor variables which are available before the student begins his college experience; the GPA's and predictor scores of those who do not survive beyond the first or second registration are rarely taken into account and consequently the relationship between college achievement and predictors of college achievement appears to be much lower than it actually is.

It is appropriate to mention at this time that the correlation between first semester GPA and second semester GPA is usually about .80. This validity coefficient is much higher than that achieved by a combination of the standard grade predictors. If a college official (administrator, counselor, etc.) wants to get the best prediction of a student's second semester GPA he should not look at the student's high school record, test scores, etc.; he should look at the student's first semester GPA.

Another point connected with the predictability and predictive validity of the first semester GPA merits mention. While it must be admitted that first semester GPA is more closely related to second semester GPA (r of about .80) than the standard college grade-predictors are related to first-semester GPA (multiple correlation of about .64), the amazing thing is that there is such a high relationship between a combination of data available before the first semester is begun and performance for the first semester; it should not be expected that the first semester GPA be predicted as accurately as the second semester GPA can be predicted from the first semester GPA. Measurement specialists refer to this as the unreliability of college GPA (i.e., if college GPA cannot predict itself very well then it is

unlikely that it can be predicted very accurately by anything else).

Results similar to Bertrand's are not difficult to find. The well designed and reported study of Lins and Pitt (19) is noteworthy. They found that of the 1994 freshmen who entered in the fall of 1948, 20 per cent were dropped for low scholarship at some time during the following four years; as might be expected the HSPR and ACE test percentiles of these dropped students were low.

Lins and Pitt presented the marked changes in the quality of the students registering each succeeding semester. While the mean HSPR, ACE percentile rank, and first semester GPA of the 1994 freshmen were 68, 49, and 1.21 respectively, the mean HSPR, ACE percentile rank, and first semester GPA of the 239 freshmen registered for only one semester were 50, 33, and 0.21 respectively; the comparable means for the 763 freshmen who were registered for eight semesters were 79, 58, and 1.66 respectively.

Of the 1994 freshmen, 560, or 28 per cent were registered for two semesters or less; of the 560, 183 were dropped for low scholarship.

CRITERIA FOR THE EVALUATION OF ADMISSIONS PRACTICES

The educational and psychological literature is replete with studies emphasizing the desirability of high predictive coefficients. Some institutions and admissions officers have discarded the selection variables they have been using because they no longer provide the high correlations with achievement that they formerly did. A more valid criterion for judging the usefulness of a selection variable than the correlation coefficient is the *quality of the students* selected; this is probably most accurately revealed by the mean and standard deviation on the standard selection variables (e.g., HSPR and ability tests).

Perhaps a few comments about the significance and desirability (or undesirability!) of substantial correlation coefficients would be helpful. If a predictor variable, say HSPR, is correlated with first semester GPA and an r of .55 obtained, it means that the probability of success for the low HSPR students is low and the probability of success for the high HSPR students is high. If the r is .60 the probability that a low HSPR student will succeed is smaller than if the r is .55. If the r is .50 the probability that a low HSPR student will succeed is higher than if the r is .55. The conclusion to be drawn from this is that *high predictive coefficients are undesirable because they indicate inequalities of opportunity for academic success.*

Admissions officers should not want to be able to predict the performance of admitted students. If high coefficients are desired they may be obtained by simply admitting all high school graduates. It would then be a simple thing to predict, before classes begin, those students who are likely to fail and those who are likely to succeed (i.e., probably the r between HSPR and first semester GPA would be about .70). There are few who would argue that this is the way to admit students. High predictability is undesirable. If it can be said with considerable accuracy at the time a student enters a particular college that he will fail, he should not be admitted.

Although generally the concern of educators and admissions officers is with the small but weak minority and the probable difficulty they will have doing satisfactory work, there are reasons why it is undesirable for the small but strong minority to have college success assured them (e.g., it would be better for society and these strong students if they were to compete only with other strong students). One of the common, and perhaps justifiable complaints of college personnel is that most of the bright high-achieving high school graduates do not really know how to study and what real scholarship is because they have not been taxed sufficiently in high school. There are few undergraduate colleges which can escape the same criticism leveled by graduate schools: many able college students achieve success without being challenged sufficiently. In general high correlation coefficients indicate that the weak students are overtaxed and that the strong students are undertaxed. High correlations are to be fought, not sought, by admissions officers.[2]

It would be best to admit only those whose chances for success are equal, or nearly equal. Take an extreme example: If only students with HSPR's of, say, 97, 98, 99, and 100 (or 48, 49, 50, 51, and 52) were admitted it is probable that the r between HSPR and GPA would be less than .03. Students with the low HSPR's are not destined for failure. In other words it cannot be specified in advance on the basis of HSPR[3] who will receive the high grades and who will receive the low grades.

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[2] It is generally the job of prediction researchers to identify factors, create techniques, construct instruments, etc., which will increase the predictability of the criterion; *after* the researcher has demonstrated the predictive value of the factor, technique, etc., selection officers and agencies should use it in such a way that its predictive validity is reduced or eliminated.

[3] The ability test scores (e.g., ACE) of these students, however, would probably

One criterion by which to judge whether or not good selection procedures have been used is to be found in the correlations with college achievement—*low correlations are to be desired; high correlations will be obtained when no selection procedure is used, or when an ineffective one is used.*

The question raised in the first sentence of this paper can now be answered. For the past 50 years colleges have been admitting many students whose readiness for college, *at least the college in which they were enrolled,* has *not* been adequate. The substantial correlation coefficients consistently obtained over the years between the standard college grade-predictors and college achievement indicate that the selection procedures employed by the colleges have not improved according to the predictability criterion conceptualized above. Rather than seeking new selection variables and techniques it probably would be wise for colleges to depend more heavily on the variables with proven and substantial validity. Fortunately there are some colleges which can point to a progressive and consistent decrease in the predictive coefficients for such standard grade predictors as HSPR, and tests of ability.

A second criterion by which to judge the effectiveness of a selection program is to be found in the quality or level of the students admitted. A selection program which operates to raise, for example, the mean HSPR and the mean scores on standardized tests of ability and achievement is to be desired. The "standards" of a college are largely determined and revealed by the size of the mean values on the standard grade-predictors. The high mean test scores of students enrolled in the better private eastern colleges is evidence of this (5).

A third criterion though not independent of the other two is important: good selection procedures should result in selecting students who are homogeneous with respect to college readiness. Heterogeneity-homogeneity is revealed by the standard deviation of scores on college grade-predictors. The standard deviations of HSPR's and ability test scores are small in homogeneous groups, and selection procedures which operate to reduce the standard deviations are to be

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correlate fairly well with GPA. It is because high schools are not uniformly good and because some of the factors which bring success to some students in high school (e.g., punctuality, docility, physical appearance) may not bring them success in college that many institutions have turned to tests as well as to the high school achievement record as criteria for admission.

desired. When the standard deviations on the standard grade-predictors are large, the correlations with GPA are usually high.

The interests of students would be served if all colleges did not seek the best students. It is almost inevitable that colleges with unstated minimum requirements will enroll some very strong and some very weak students. Those colleges drawing primarily "average" students should consider discouraging not only very weak but very strong applicants. The needs of these students should be met by other institutions who are able to tailor-make a suitable educational program for them. Co-operation of this kind between institutions may become necessary if the pressure to eliminate educational inefficiency and the need to conserve and properly utilize human resources becomes great enough.

What would be some of the consequences of a college's selecting students so a superior homogeneous group of students is enrolled? If it can be assumed that the college faculty can recognize an over-all improvement in the quality of students' examinations, term assignments, etc., the average freshman GPA would be higher than formerly. The standard deviation of the freshman GPA would be decreased. Since fewer students would have very low GPA's student morale would be improved and student mortality would be reduced. The r's between grade predictors and GPA would be reduced. An increased number of student grade records would show grades of A to E or F; there would be fewer straight A (and F!) records. The intercorrelations between grades in the various courses would be lowered. Each student would have to be "on the ball" since any appreciable withdrawal from his studies would be reflected in the work evaluated by the instructor. Class discussions would be on a relatively high, challenging-to-all level. The plaguing problems resulting from the wide range of individual differences in college readiness would be reduced remarkably. In a very real sense the above can be considered criteria for evaluating changes introduced into college selection procedures.

THE ADMISSIONS OFFICERS' ROLE IN SELECTING STUDENTS

In an effort to admit the best students some well-meaning admissions officers are seeking to appraise carefully each applicant's readiness for college. While this is generally not done through a personal interview, a great deal of information is collected and weighed before a decision is reached.

The disturbing thing about this practice is that there is little evidence (the writer knows of none) for believing that the best students are selected. Normally it is assumed, and quite plausibly, that an expert with considerable synthesized information (family background, school and work experience, interests, interview behavior, etc.) can make a very accurate appraisal and prediction of a person's future performance. There have been studies comparing the accuracy of human and actuarial-mechanical (formula) methods of predicting behavior. Meehl (20) in a provocative book has reviewed these studies. The results are disturbing: in only one of the twenty studies available was the clinical (human) method superior to a simple statistical method of prediction; in half of the studies the latter method was clearly superior. This sobering book should be read by all who are involved in student selection, prediction, evaluation, and assessment.

Thorough studies by Sarbin (24) and Melton (21) have shown that counselors who have extensive information on students (including the high school's personal appraisal, record of high school achievement, and ability and achievement test scores) were unable to predict freshman GPA as well as the mechanical use of a combination of HSPR and the ACE. Melton also gave each counselor the prediction table (involving HSPR and ACE) which was used in making the mechanical predictions: he found that while counselors improved the accuracy of their predictions they did *not* equal the accuracy of the actuarial predictions!

Other evidence is relevant. It was previously mentioned that the principal's prediction of success correlated less than .30 with GPA. If the principal, rather than attempting to take into account (as do some admissions officers) the student's "motivation to do well in college," "maturity," "responsibility," "intellectual curiosity," etc., would look only at the student's HSPR, his prediction would be much more accurate (an r of about .55 if he refrained completely from using his judgment). Actually a student's HSPR may be an accurate summary of his academic maturity, responsibility, etc.

It appears on the basis of available evidence that a college desiring to select the best students should depend on the *student's demonstrated record* (and/or what he can demonstrate on tests of established validity), and not on what he or anyone else *thinks* about his college readiness. Human opinion and judgment should not be depended upon when something better is available. This situation is

not unique to selection and prediction (e.g., the pediatrician does not depend upon his judgment of the weight of a baby if he really wants to know what the baby weighs).

The important point of this section is that according to the evidence presented in this *Journal* and the literature generally there is little support for an admissions officer's spending his valuable time deciding whether to admit or not to admit each applicant.[4] Admissions officers should not mislead themselves, the applicants, the high school officials, and the colleges they serve into believing that they can do a good job of selecting students if they cannot. Each admissions officer should put himself to the test (preferably in co-operation with a measurement and prediction specialist) to see whether or not his appraisal of an applicant's academic promise is superior to that revealed by a combination of HSPR and an ability test score. The writer is optimistic that some admissions officers will be discovered who can predict (and subsequently select) better than an actuarial table, but it is dangerous to assume that all admissions officers are competent judges simply because they have been making judgments for a long time. There can be no doubt that subtle signs and relationships which predict subsequent performance can occasionally be identified from life history data (13) and incorporated into the thinking of a selection and prediction expert. But the intensive analysis by Kelly and Fiske (16) of the predictive ability of highly experienced and trained specialists in human behavior emphasizes that the specialist is surprisingly limited in his ability to synthesize and use individually valid bits of information.

SOME PROPOSALS FOR ADMISSIONS PRACTICES

The problems mentioned by Ersoff (6) and quoted at the beginning of this paper could be minimized or eliminated if each college would clearly specify in its catalogue the criteria it uses in selecting students. It is not surprising that high school graduates desiring to go to college resort to multiple applications. This is a symptom produced largely by the inadequate statement of requirements for admission. If a student were more or less certain that he would or

[4] Nothing in this paper should be interpreted as suggesting that the high schools and colleges should not share information. The data supplied by the high schools is of great value to the colleges in their attempt to assist each student and make him feel secure and appreciated in his new surroundings.

would not be admitted to a particular institution this knowledge would condition his application-sending behavior. It is shocking to think that many high-ability, high-achieving high school students must worry about whether or not they will be considered qualified for admission to institution X. What is probably more shocking is the thought that many potentially successful students are refused admission to college or to the college of their choice on indefensible grounds.

For reasons presented above the writer suggests that each college consider admitting students according to their demonstrated college readiness as determined by their HSPR and their score on an ability test.

Since HSPR is a better predictor of college GPA than an ability test it should count more heavily in determining eligibility. The beta weights commonly obtained from regression equations provide a basis for weighting the variables. Certain methods which provide accurate grade predictions are impracticable for student selection (14). Until a better formula can be devised by each college the writer suggests that the HSPR be multiplied by two and added to the ability test percentile rank (norms established on all graduating senior high school students in the state); this sum divided by three would be the student's *college qualification rank* (CQR).

Use of the CQR would permit each college to indicate clearly what students it will admit and what students it will not admit. It is not inconceivable, for example, that the major state university in each state would decide to admit only students whose CQR's are above, say 55. Certain refinements or qualifications might be added (e.g., "students whose CQR's are above 55 but below 65 are advised not to apply but if they do they will be admitted"; "no student with HSPR *or* ability test percentile rank below 40 will be admitted").

It would be desirable if each institution would present in its catalogue the average CQR's of its entering freshmen, and some indication of the variability of the CQR's; a graphic portrayal probably would be most helpful to prospective students and high school personnel who advise students. Of course, the writer is not optimistic that many institutions would now be willing to publicize their "standards," but the day may come! These "standards" are no longer secrets, as far as most college personnel are concerned; the professional literature is full of relevant information.

As mentioned earlier it would also be desirable if some institutions would refuse superior students (e.g., the college's catalogue would state, "no student with a CQR of 80 or above will be admitted to this college"). If this is not feasible at least high CQR students could be advised to apply elsewhere, or be admitted only after special permission is granted.

It would not be difficult to give students and other college catalogue readers acceptable reasons for the admission requirements. A brief summary of the prediction studies summarized in this paper would satisfy almost anyone. The writer in his selection work in the College of Science, Literature, and the Arts (SLA) of the University of Minnesota found very few borderline admission applicants who did not appreciate and act upon a frank discussion of their admissibility. Almost always the HSPR and ACE percentile ranks (norms established on enrolled college freshmen in the state of Minnesota) of these students averaged less than 40, the minimum necessary for routine admission to SLA. The reasons these students gave for wanting to be admitted are familiar to all admissions officers (e.g., "it's true I didn't study very hard in high school but *now* I am ready for college," "I could have done much better on the test but I didn't take it seriously"). Occasionally the student's average would be 39.5, only .5 short of qualifying for routine admission by a clerk in the University's admissions office. The interview usually included a discussion of what was fair to those potential applicants having averages less than the publicized minimum of 40, who did not seek "special consideration," and a discussion of what was fair to him. After several points of view were presented and evaluated (typically it was suggested that the student enter a college where the probability of his success would be higher, and where he would get a sense of achievement and not be disappointed in his first college experience; it was pointed out that if he did satisfactory work for one year in this other college, he could transfer to SLA and receive full credit for his work) the applicant with a high HSPR was usually told that he could take another test and if he achieved a certain percentile rank he would be admitted. Most of these students decided that they would rather not take the test because they could see that even if they "passed" their readiness for work in SLA was not adequate since they would be competing with students who easily met the minimum

requirement without a retest. They were aware that if they were admitted, did poorly, and were asked to leave, they probably would not be admitted to another college for at least a year or two after establishing an unacceptable SLA record. The majority of these borderline applicants who decided not to take the retest, and those who failed the retest, and those who were not permitted to take a retest were admitted to the University's two-year General College; this college was designed primarily to meet the needs of academically weak students.

Not only would the CQR method select the best students but it would permit a college to specify precisely its admissions requirements so that the high schools could intelligently guide their students.[5] Students would have a concrete basis for selecting an appropriate college. Use of HSPR as the major selection variable emphasizes the quality of high school performance rather than a restricted pattern of subjects.[6] Use of an ability test percentile corrects for inequalities which would result from treating all high schools as equal (i.e., students from a relatively select high school would obtain higher ability test percentiles and students from a relatively weak high school would obtain lower ability test percentiles). However, on the basis of the evidence this writer has seen and collected he believes the differences between high schools have been over-

[5] An effective arrangement in some states has resulted from the co-operation between schools and colleges in the administration of a single ability test to all high school juniors in the state. It has frequently been shown that tests administered in the junior year provide essentially the same predictions of college achievement as tests administered a year or two later (e.g., 26). The results from the junior-year testing are available to the high school personnel and students for guidance purposes at the beginning of the student's senior year. Obviously the test results are useful even for those students who are not college bound. The use of IBM cards permits each college to receive from one agency the scores of all students tested with a minimum of expense and inconvenience. In some states all high schools report to this central agency each student's rank in class and the number in the student's graduating class; these figures are usually determined on the basis of 2-½ or 3-½ years of high school work. The central agency computes each student's HSPR and distributes it along with the ability test percentile rank to each college.

[6] Use of achievement tests to select students affects the high school curriculum in essentially the same way as a required pattern of subjects; while they may be better predictors of college achievement than an ability test at least several of them would have to be administered to cover adequately the variety of subject matter areas. Their use by colleges for the placement and sectioning of admitted students is to be recommended.

emphasized. The differences between students he believes have been underemphasized.[7]

Before concluding it is only fair to agree that there would be some students refused admission by the CQR criterion who would have been successful if they had been admitted. *This criticism can be made of every method of admitting students.* All that can be said in defense of the CQR method is that fewer errors would be made, that it is relatively inexpensive, objective, fair to all applicants and potential applicants, fair to the high school administrators, and easily communicable; and finally that it permits the quality of the student body to be carefully controlled.

SUMMARY

A conceptual framework for evaluating admissions practices was presented. An interpretation of the consistently substantial correlations over the years between college achievement and certain predictors of college achievement led to the suggestion that college admissions officers depend more heavily upon selection variables with known validity. The essence of this suggestion is that admission to college should be conditioned only by the quality of the record the student has demonstrated in high school and on academic ability tests.

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[7] In this connection it is not inappropriate to comment upon what "nonselective" colleges might do to reduce the correlations between grade predictors and GPA. If it is important that all students have mastered certain facts, concepts, skills, etc., at the end of a semester or year, it may be desirable to section the weak, average, and strong students in courses meeting four, three, and two hours a week respectively to cover essentially the same material but at different rates and levels; possibly a common final examination could be given for the purpose of distributing grades. It might be desirable to give 3 semester credits (or its equivalent) for the course regardless of the number of hours of class time involved. One great advantage of such a procedure would be that able students could take several more courses each semester and graduate more quickly. This would be one way to meet individual differences in ability and achievement through groups. As educational institutions grow in size, this approach may be feasible for many courses.

Another general solution to the problems of individual differences which might be employed by those large state institutions required by law to admit all high school graduates would be to set up a college similar to the General College at the University of Minnesota. Legislators, through the leadership of educators, may eventually become as much concerned about assuring high school graduates a college *education* (at their level) as they are now concerned with guaranteeing them college *admission* (which frequently means a short and unfortunate experience for many students).

Colleges were encouraged to state explicitly in their catalogues the criteria for admission. It was suggested that many benefits would accrue from stating that students would be selected according to their *college qualification rank* (CQR), a combination of high school percentile rank (HSPR) and academic ability test percentile rank.

Surprising as it may seem to some there is considerable evidence to suggest that experts in student appraisal are unable to predict academic achievement as well as the mechanical use of a formula such as CQR. Admissions officers were urged to conduct research to see whether or not they can, on the basis of all the information they collect from applicants, do as well as or better than a formula such as CQR in predicting college success.

The importance of the decisions made in the admissions office is difficult to overestimate. There is a great need, now, for colleges and universities to take a closer look at their admissions policy. How can they best fulfill their obligation to youth?

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